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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program | **Mechanical Engineering** |
| Study Module (if applicable) | Mechatronics and Control |
| Course Title |  Manufacturing Procedures of Mechatronic Elements |
| Level of Study | ☒Bachelor | ☐ Master’s | ☐ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | IV |
| Number of ECTS Allocated | 5 |
| Name of Lecturer/Lecturers |  Dušan S. Stamenković Miloš S. Milošević |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☒ Individual tutorials |
| ☒ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *Introduction to modern technologies applied in the manufacturing procedures of elements of mechatronic systems. Understanding the basic physical and chemical principles at different technological procedures whose priority are demands for high accuracy of measurements and quality of surface treatment. Introduction to the techniques of designing technological processes for numerically controlled machines, as well as techniques for programming numerically controlled machines. Selection of appropriate technological process of producing the responsible elements of mechatronic systems.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| Manufacturing tolerances. Variety of Technologies. Technologies of the initial design (casting, pressing of metals). Technologies of changing shapes (plastic deformation processing, processing of the material removal, joining technologies of parts, technologies of material application). Technologies of changes material properties. Designing of technological processes for numerically controlled machines. Programming of numerically controlled machines. Measurement of surface roughness by profilometer. Determination of the processing technology of elements of mechatronic systems based on the technical documentation. Design of the virtual technological processes and programming of numerically controlled milling machines.  |
| **Language of Instruction** |
| ☒Serbian (complete course) |  ☐ English (complete course) | ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course) |
| ☒Serbian with English mentoring | ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Assessment Methods and Criteria** |
| **Pre exam Duties** | **Points** | **Final Exam** | **Points** |
| **Activity During Lectures** | **10** | **Written Examination** | **0** |
| **Practical Teaching** | **10** | **Oral Examination** | **20** |
| **Teaching Colloquia** | **60** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |